

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE 292-04-P(CL)-0314	PAGE 1 OF 22 PAGES
2. AMENDMENT/MODIFICATION NO. 2	3. EFFECTIVE DATE See Block 16C	4. REQUISITION/PURCHASE REQ. NO. HCY30100	5. PROJECT NO. (If applicable)	
6. ISSUED BY National Institutes of Health Acquisition Br. "C", Bldg. 13 Rm G-800 Bethesda, Maryland 20892		7. ADMINISTERED BY (If other than Item 6) Barbara Taylor, Contracting Officer Tel # 301-435-4333 Fax # 301-402-1103		
8. NAME AND ADDRESS OF CONTRACTOR (No. Street, county, State and ZIP: Code)			(4)	9A. AMENDMENT OF SOLICITATION NO. 292-04-P(CL)-0314
				9B. DATED (SEE ITEM 11) July 15, 2004
				10A. MODIFICATION OF CONTRACT/ORDER NO.
				10B. DATED (SEE ITEM 13)
CODE			FACILITY CODE	

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☒ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended, ☒ is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

(a) By completing Items 8 and 15, and returning one (1) copy of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATA SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and data specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

(4)	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY
	D. OTHER Specify type of modification and authority

E. IMPORTANT: Contractor ☐ is not, ☐ is required to sign this document and return ____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

The Contract Documents are amended to include the changes, deletions, and/or additions identified herein as AMENDMENT NO. 2. Contract Documents issued after the date of this amendment will incorporate the AMENDMENT NO. 2 drawings as replacements to their respective original contract documents.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Barbara Taylor, Contracting Officer	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED July 15, 2004
(Signature of person authorized to sign)		BY (Signature of Contracting Officer)	

ADDENDUM NO. 2

The above numbered solicitation is amended as follows:

ITEMS

1. The Contract Documents are amended to include the changes/deletions and/or additions to the specifications and drawings identified in Attachment No. 2 herein.
2. Section L, Article L.9. Delete Paragraph 2. Add the following:

“2. Submission and Content of Proposals: Proposals shall be submitted in four separate parts. Part One – Minimum Requirements, Part Two – Technical Data, Part Three – Price Proposal, Part Four – Oral Presentation.
3. Section M, Article M.3, Paragraph 1. Delete the last sentence. Add the following:

“Descriptions of the factors and their subfactors, in descending order of importance, follow:”
4. Section M, Article M.3, Paragraph 1.a. Delete Paragraph Nos. 1.(a).(1) and 1.(a).(2). Add the following:
 - (1) The firm's past performance as rated by the key representatives of the project's Client, Architect and Construction Quality Manager.
 - (i) Overall Customer Satisfaction
 - (ii) Professionalism and Integrity
 - (iii) Timeliness of Performance
 - (iv) Professional / Technical Capabilities
 - (v) Level of Communication
 - (vi) Quality Control
 - (vii) Cost Control
 - (viii) Schedule Control
 - (ix) Providing Competent Staff
 - (x) Safety
 - (2) Relevancy of past performance (project similarity, complexity, scope, size, key personnel involved, currentness and similarity of specific CMc services to this proposed NIAID project).
5. The Contract Documents are amended to include the Pre-Bid Conference Meeting Minutes, included herein as Attachment No. 1.
6. Section C, Scope of Services, Paragraph 1.(a).(16).(i). Delete the following:

“(Get copy of HHMI Contract with section on trending estimates)”
7. Section C, Scope of Services, Paragraph 1.(a).(16).(ii). Delete the following:

“(Include language that Government has the right to refuse any proposed subcontractor)”

ATTACHMENTS

1. Pre-Bid Conference Meeting Minutes
2. Specification Section 01770

ATTACHMENT NO. 1

Pre-Bid Conference Meeting Minutes

PROJECT: NIAID INTEGRATED RESEARCH FACILITY
The National Institutes of Health
Construction Manager as Constructor Services
Solicitation No. 292-04-P(CL)-0314

MEETING MINUTES

NUMBER: BID-001
SUBJECT: Pre-Bid Meeting
DATE: July 8, 2004
TIME: 10:00 AM
LOCATION: Strough Auditorium, Fort Detrick, Frederick, Maryland

ATTENDEES:	Barbara Taylor	The National Institutes of Health/AB-C
	Frank Kutlak	The National Institutes of Health/DCPM
	Brian A. Temme	Jacobs
	K. Adam Leaman	Jacobs
	Randy Kray	CUH2A / Smith Carter

Attendees per attached sign-in sheet

Attached please find the minutes and agenda for the subject meeting.

These minutes, while not a verbatim transcript, generally reflect what was discussed and agreed in the meeting. Please submit a written response within five days of receipt should your interpretation of the discussion differ from these minutes.

Frank Kutlak opened the meeting by requesting that everyone sign the attendance sheet and noting that copies of the meeting agenda were being passed out. He also requested that everyone hold their questions until the end of the meeting during the question and answer period.

1.0 Meeting Overview

- 1.1 Barbara Taylor, Contracting Officer for the National Institutes of Health, explained that the purpose of the Pre-Bid Conference was to provide an overview of the project and any major issues. She emphasized that all questions must be submitted in writing.
- 1.2 Barbara Taylor explained that this procurement was for Construction Manager as Constructor services for the NIAID Integrated Research Facility to be constructed on the garrison of Fort Detrick, Frederick, Maryland.

2.0 Introductions/Roles – Lines of Communication

- 2.1 Frank Kutlak, Project Officer for the National Institutes of Health, introduced the key members of the NIH team.
 - Barbara Taylor – NIH Contracting Officer
 - Frank Kutlak – NIH Contracting Officer's Technical Representative
 - Jacobs Facilities, Inc. – Construction Quality Manager
 - CUH2A / Smith Carter – Architect
- 2.2 Frank Kutlak noted that all questions on this solicitation should be submitted through the discussion board on the NIH website (www.ccb.od.nih.gov).

3.0 Project Approach

- 3.1 Frank Kutlak gave a brief history of the development of the project. He explained the NIAID Integrated Research Facility is being constructed to provide new research capabilities for biodefense.
- 3.2 This is not a black project, however, security is very much a concern. All bid documents are to be returned after the bid date. All personnel working on the project will go through a two-stage background check.
- 3.3 The NIAID Integrated Research Facility is a highly technical facility, which will require extensive commissioning and performance testing.

4.0 A/E Overview

- 4.1 Randy Kray explained that CUH2A / Smith Carter is the architect of record for this project. CUH2A / Smith Carter will have full-time personnel on-site during the construction of the facility.
- 4.2 Jacobs Facilities will be providing a Commissioning Agent for the facility. CUH2A / Smith Carter will be developing the specifications and requirements for commissioning.
- 4.3 Randy Kray noted that the high containment usage is comprised of three major areas: Bio-Safety Level 4 laboratories, Bio-Safety Level 4 animal holding rooms and imaging suites. There is also an aerobiology component that requires the use of Class 3 bio-safety cabinets.

4.4 Randy Kray emphasized that construction mock-ups are critical to the success of this project. There will need to be serious dialogue and commitment on the performance of the mock-ups.

4.5 The critical work areas of this project are the high containment concrete, the high containment coatings and a thorough and proper level of commissioning.

5.0 Instructions to Bidders

5.1 Brian Temme reviewed the instructions to bidders from the solicitation. The evaluation process will occur in three steps: minimum requirements, competitive range and oral presentations.

5.2 Brian Temme noted that the price proposal requires a detailed breakdown.

5.3 The technical evaluation factors used to evaluate Offeror's proposals are listed in Section M of the Solicitation.

5.4 Drawings and Specifications can be obtained from Leet-Melbrook, per the instructions set forth in the Solicitation. Sets shall be returned after the bid period. Drawings and Specifications are 35% Design Development documents and are provided for information only. However, the requirements for the high containment mix design and testing requirements are per the Specifications.

6.0 Questions and Answers

The following questions were posed and answers were provided by the Government.

6.1 What will be the impact of future projects on this campus to this construction project?
ANSWER: There are ongoing meetings between the Project Team and the Garrison to coordinate all projects on the campus. This building will be a stand alone facility. However, there will be some coordination issues with the current USAMRIID facility.

6.2 How should Offeror's determine the cost of off-site parking?
ANSWER: The management of the off-site parking is to be included as part of the Offeror's Pre-Construction Services Fee. However, the actual cost of the off-site parking shall be included as part of the Guaranteed Maximum Price.

6.3 Are the Oral Presentations to be schedule 6-10 working days or calendar days from receipt of the bids?
ANSWER: 6-10 Government working days.

6.4 How soon will Offeror's be notified of the Oral Presentation times?
ANSWER: Offeror's will be notified of their scheduled time for Oral Presentations, as soon as possible. Offeror's are strongly recommended to keep their schedules open during this period.

7.0 Site Tour

7.1 Frank Kutlak led the Contractor Representatives on a tour of the site, which concluded the Pre-Bid Conference.

**NIAID Integrated Research Facility
W. R. No. HCY30100
Solicitation No. 292-04-P(CL)-0314**

Pre-Bid Conference

**Strough Auditorium, Building 713, Fort Detrick
Thursday, July 8, 2004, 10:00 am - 12:00 noon**

Please sign the sign-in sheet

Agenda

1. Meeting Overview	Barbara Taylor	10:00 - 10:05 AM
2. Introductions/Roles - lines of communication	Frank Kutlak	10:05 - 10:10 AM
3. Project Approach	Frank Kutlak	10:10 - 10:20 AM
4. A/E Overview	Randy Kray	10:20 - 10:40 AM
5. Review of Instruction to Bidders	Brian Temme	10:45 - 10:50 AM
6. Questions and Answers	Brian Temme	10:50 - 11:30 AM
7. Site Tour	Frank Kutlak	11:35 - 12:00 PM

MEETING SIGN-IN SHEET

MEETING TITLE: Pre-Bid Conference
NIAID Integrated Research Facility
Solicitation No. 292-04-P(CL)-0314

DATE & TIME: July 8, 2004; 10:00 AM

LOCATION: Strough Auditorium, Building 713

NAME	ORGANIZATION	TELEPHONE NO.
1. Thompson George	Maj, SPO	30034
2. Murphy Kim	USAG, RM	3-3251
3. Ron Stuckey	USAG, RM	3-2608
4. NANCY DECKER	NIAID	
4. Bill McIntosh	Centex	703 273 3311
5. Leroy Baffle	NIH / DRAS	301-435-4396
6. Susan Pajuel	The Crozier Co	917-334-5670
7. DEAN POLICCI	SKANSKA	201-213-9565
8. Rob Ward	SKANSKA	301-738-0087
9. Don Moore	M-t Concrete	301-663-0626
10. Robinson, A. Olivia	USAG-SECURITY OFFICE	(301) 619-3302
11. George E. Roper	USAG-PROVOST MARSHAL OFFICE	(301) 619-4573
12. ANTHONY N. THOMAS	USAG-PMO - Phy Sec.	301-619-4573
13. Brian Plano	Whiting-Turner	410/337-5876
14. Jim Sparrow	FLUON	864-281-4229
15. Bill Schaparkotter	Fluor	864-281-4228
16. RANDY KRAV	Southwest	
17.		
18.		
19.		
20.		

MEETING SIGN-IN SHEET

MEETING TITLE: Pre-Bid Conference
NIAID Integrated Research Facility
Solicitation No. 292-04-P(CL)-0314

DATE & TIME: July 8, 2004; 10:00 AM

LOCATION: Strough Auditorium, Building 713

	NAME	ORGANIZATION	TELEPHONE NO.
1.	<u>Juan Bozys</u>	<u>Turner</u>	<u>703.841.5248</u>
2.	<u>Mike Flannery</u>	<u>Turner</u>	<u>703.726.6180</u>
3.	<u>Jason Riffin</u>	<u>Turner</u>	<u>410.715.7266</u>
4.	<u>WALTER GUEST</u>	<u>MCCARTNY</u>	<u>314-919-2289</u>
4.	<u>Mark Goodwin</u>	<u>Clark</u>	<u>301-272-6958</u>
5.	<u>JOE HOGAN</u>	<u>Clark</u>	<u>301 272-6936</u>
6.	<u>JOHN MORROW</u>	<u>Clark</u>	<u>301-272 6891</u>
7.	<u>DAVE PORCH</u>	<u>DHS/SAIC</u>	<u>301-846-2186</u>
8.	<u>Gordon Chipman</u>	<u>Parsons</u>	<u>301-371 3766</u>
9.	<u>JOHN LOOVE</u>	<u>HENSEL PHELPS</u>	<u>703.828.3200</u>
10.	<u>Jean Riddle</u>	<u>NIH</u>	<u>-</u>
11.	<u>Mike Crase</u>	<u>Gilbane</u>	<u>301.317. 6113</u>
12.	<u>JEFF SCHRAMM</u>	<u>Gilbane</u>	<u>301.317. 6118</u>
13.	<u>NOEL WERKING</u>	<u>DIRECTORATE OF INFORMATION MANAGEMENT (DOIM)</u>	<u>301-619-7508</u>
14.	<u>Lew Richards</u>	<u>Whiting-Turner</u>	<u>410 337-2391</u>
15.	<u>Keith Jarvis</u>	<u>Whiting-Turner</u>	<u>301 656 0011</u>
16.	<u>LARRY POTTER</u>	<u>USAC-DIS</u>	<u>301-619-3491</u>
17.	<u>JOHN ROSZELL</u>	<u>USAC-DIS</u>	<u>301-619-2604</u>
18.	<u> </u>	<u> </u>	<u> </u>
19.	<u> </u>	<u> </u>	<u> </u>
20.	<u> </u>	<u> </u>	<u> </u>

ATTACHMENT NO. 2

Specification Section 01770

SECTION 01770 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Substantial Completion requirements and inspection procedures
 - 2. Final Completion requirements and inspection procedures
 - 3. Project Record Documents.
 - 4. Operation and Maintenance manuals.
 - 5. Warranties.
 - 6. Instruction of NIH personnel.
 - 7. Final cleaning.
- B. Closeout requirements for specific construction activities are included in the individual sections in Divisions 2 through 16.
- C. This specification section is related to any and all specification sections with explicit or implicit reference to closeout procedures. Specific submittal requirements of these related specification sections are not included in this section. Related sections include but are not limited to the following specification sections:
 - 1. Division 1 Section "Summary"
 - 2. Division 1 Section "Project Management and Coordination"
 - 3. Division 1 Section "Construction Progress Documentation"
 - 4. Division 1 Section "Photographic Documentation"
 - 5. Division 1 Section "Submittal Procedures"
 - 6. Division 1 Section "Quality Requirements"
 - 7. Division 1 Section "Construction Quality Control"
 - 8. Division 1 Section "Temporary Facilities and Controls"
 - 9. Division 1 Section "Safety and Health"
 - 10. Division 1 Section "Product Requirements"
 - 11. Division 1 Section "Project Record Documents"
 - 12. Division 1 Section "Operation and Maintenance Documentation"
 - 13. Division 1 Section "Demonstration and Training"
- D. Substantial Completion for all areas of the building excluding areas classified as BSL3 and BSL4. is defined as that state when the Contractor has complied with the Contract requirements, except for minor deviations, and the project is sufficiently complete and capable of being occupied and used by NIH for the intended purpose. Achievement of Substantial Completion is determined by the Contracting Officer.

1. Refer to Life Safety / Key plan drawings for areas classified as BSL3 and BSL4.

E. Substantial Completion for areas of the building classified as BSL3 and BSL4, is defined as that state when the Contractor has complied with the all Contract requirements, and the project is complete and capable of being occupied and used by NIH for the intended purpose. Achievement of Substantial Completion is determined by the Contracting Officer.

1. Refer to Life Safety / Key plan drawings for areas classified as BSL3 and BSL4.

2. All outstanding deficiencies and punch list items shall be completed prior to Substantial Completion of BSL3 and BSL4 areas.

3. Completion of all Contract requirements includes the completion and acceptance of the Functional Operation System Test.

a. The Functional Operation System Tests (FOST) provides a 30 day period for the facility to settle into a normal operational pattern. The focus will be on monitoring the facility and lab functions, the life safety elements related to system operations, specifically as they relate to the interlocks of the various systems, fire alarms, security, air systems, etc.

b. The FOST will only start after the BSL3 and BSL4 areas are complete with no deficiencies (including all commissioning) and the systems serving these areas are complete. There may be some minor punch list items in the remainder of the building that may be attended to during this period..

c. Refer to Division 18 'Functional Operation System Test.

1.3 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting inspection for determining the date of Substantial Completion, complete the following. List items below that are incomplete in request.

1. Provide supporting documentation for completion as indicated elsewhere in the Contract Documents and a statement showing an accounting of changes to the Contract Sum.
2. Submit a list to the Project Officer, of incomplete items, the value of incomplete construction, and reasons the work is not complete.
3. Obtain and submit any necessary releases enabling NIH unrestricted use of the project and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
4. Make final changeover of permanent locks. Use 8 bit Lockwood cylinders in the locks. Set the cylinders for blank keys and transmit two blank keys for each cylinder to the Project Officer. Advise the NIH user personnel of changeover in security provisions.
5. Complete startup testing of systems and instruction of NIH operation and maintenance personnel.
6. Discontinue and remove temporary facilities from the site, along with mockups, construction tools, and similar elements.
7. Submit Operation and Maintenance Manuals, final project photographs, and final surveys as specified.
8. Submit draft or final warranty documents for Contracting Officer review for approval.
9. Complete final clean-up requirements, including touch-up painting. Touch-up and otherwise repair and restore marred exposed finishes.
10. Record Documents (Drawings, specifications, and product data).

a. Initial submission shall be made to the Project Officer prior to the Pre-final Inspection.

- b. NIH will review the submission and provide appropriate comments. If comments are significant the initial submission will be returned to the contractor for correction and re-submission incorporating the comments prior to the Final Inspection.
 - c. See Division 1 Section "Project Record Documentation" for additional requirements.
- 11. Provide all required submittals to the Contracting Officer.
- 12. Submit test/adjust/balance records.
- 13. Submit changeover information related to NIH occupancy, use, operation, and maintenance.
- 14. Outline of Instruction Program for NIH Employees shall be submitted to the Project Officer 14 calendar days prior to the Pre-final Inspection.

B. Inspection Procedures:

- 1. Substantial Completion Inspection corresponds to the Pre-Final Completion Inspection described in Division 1 Section "Construction Quality Control."
- 2. On receipt of a request for inspection, the Project Officer will either schedule the inspection or advise the Contractor of unfilled requirements. The Contracting Officer will prepare the Certificate of Substantial Completion following the inspection or advise the Contractor of construction that must be completed or corrected before the certificate will be issued.
- 3. The Project Officer will repeat the inspection when requested and when assured that the work is substantially complete.
- 4. Results of the completed inspection will form the basis of the requirements for final completion.

1.4 SUBMITTALS

A. The following shall be submitted prior to final payment and closeout.

- 1. Manufacturer's cleaning instructions
- 2. Posted instructions
- 3. All required submittals
- 4. Record Documents (Drawings, specifications, and product data).
 - a. Initial submission shall be made to the Project Officer prior to the Pre-final Inspection.
 - b. NIH will review the submission and provide appropriate comments. If comments are significant the initial submission will be returned to the contractor for correction and re-submission incorporating the comments prior to the Final Inspection.
- 5. Outline of Instruction Program for NIH Employees shall be submitted to the Project Officer 14 calendar days prior to the Pre-final Inspection.
- 6. Operation and Maintenance Manuals, including Preventive Maintenance, Special Tools, Repair Requirements, Parts List, Spare Parts List, and Operating Instructions.
- 7. Construction progress photographs
- 8. Final project warranty documents reflecting changes directed by any comments from the Contracting Officer's review of draft documents.

B. Project Closeout Work Plan. Contractor shall submit a Project Closeout Work Plan for each phase of occupancy to the Project Officer for approval at least **<Insert number of calendar days>** calendar days prior to the Substantial Completion Inspection of the phase to be

occupied. The plan should include all scheduled inspections, instruction classes, items to be submitted, closeout dates for all functions and the required NIH and Contractor personnel for these functions that will be taking part.

1.5 FINAL COMPLETION

- A. Preliminary Procedures: Before requesting final inspection for Certification of Final Completion and Final Payment, complete the following. Note that the following are to be completed, submitted as appropriate, and approved by NIH as applicable prior to the final inspection and are not to be submitted for approval or otherwise at the final inspection unless specifically indicated. List exceptions in the request.
1. Submit final payment request with releases and supporting documentation not previously submitted and accepted.
 2. Submit an updated final statement, accounting for final additional changes to the Contract price.
 3. Verify that all required submittals have been provided to the Contracting Officer including but not limited to the following:
 - a. Manufacturer's cleaning instructions
 - b. Posted instructions
 - c. Record Documents (Drawings, specifications, and product data) incorporating any changes required by the Contracting Officer as a result of the review of the submission prior to the pre-final inspection. See Division 1 Section "Project Record Documentation" for additional requirements.
 - d. Operation and Maintenance Manuals, including Preventive Maintenance, Special Tools, Repair Requirements, Parts List, Spare Parts List, and Operating Instructions.
 - e. Construction progress photographs
 - f. Final project warranty documents reflecting changes directed by any comments from the Contracting Officer's review of draft documents.
 4. Submit a certified copy of the previous Substantial Completion inspection list of items to be completed or corrected. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance, and shall be endorsed and dated by the Contractor.
 5. Submit Pest management Post Construction Survey and Certification.
 6. Submit specific warranties, workmanship bonds, maintenance agreements, final certifications and similar documents.
 7. Submit record documents and similar final record information.
 8. Deliver tools, spare parts, extra stock and similar items.
 9. Complete final clean-up requirements including touch-up painting of marred surfaces.
 10. Submit final meter readings for utilities, a measured record of stored fuel, and similar data as of the date when NIH took possession of and assumed responsibility for corresponding elements of the work.
- B. Reinspection Procedure: The Project Officer will reinspect the work upon receipt of notice from the Contractor that the project work, including inspection list items from earlier inspections, has been completed, except for items whose completion is delayed under circumstances acceptable to the Contracting Officer.
1. Upon completion of reinspection, the Project Officer will advise the Contracting Officer, who will prepare a Certificate of Final Completion, or the Contracting Officer will advise

- the Contractor of work that is incomplete or of obligations that have not been fulfilled and are required for Final Completion.
2. Failure of the Contractor to have all contract work acceptably complete for this inspection will be cause for the Contracting Officer to bill the Contractor for any additional NIH inspection costs in accordance with the Contract Clause entitled "Inspection of Construction."

1.6 RECORD DOCUMENT SUBMITTALS

- A. As work progresses, prepare and maintain record documents as specified herein. Each record document shall be certified by the Contractor. Do not use record documents for construction purposes. Protect record documents from deterioration and loss in a secure, fire-resistant location. Provide access to record documents for the Project Officer during normal working hours. Upon completion of the project, turn all record documents over to the Contracting Officer.
- B. Record Drawings: Maintain a dean, undamaged set of blue or black line white-prints of Contract Drawings, Shop Drawings and Fire Protection System Installation Drawings. Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown. Mark the drawing that is most capable of showing conditions fully and accurately. Where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
 1. Mark record sets with red erasable pencil. Use other colors to distinguish between variations in separate categories of the work.
 2. Mark new information not shown on Contract Drawings, Shop Drawings or Fire Protection Installation Drawings.
 3. Note related Change Order numbers, alternate numbers, and similar identification numbers where applicable.
 4. Organize record drawing sheets into manageable sets. Bind sets with durable paper cover sheets. Include project title and other identification as required on the cover of each set. Include a transmittal letter which contains the date, project title, Contractor's name, address and telephone number, submittal schedule reference number and Contractor's signature.
 5. Failure by the Contractor to accurately reflect current information on the Record Drawings may result in a determination by the Contracting Officer that the Contractor has failed to meet his progress schedule. Payment, or a portion of the payment, including final payment, may be withheld until the Record Drawings are current, and accepted by the Contracting Officer.
 6. Provide **<Insert number of sets required>** complete sets of Record Drawings to the Contracting Officer.
 7. If project drawings were available in electronic media, then Record Drawings shall also be provided in electronic media in **[AUTOCAD Release 14 or greater]**.
- C. Record Specifications: Maintain one complete copy of the Project Specifications with addenda.
 1. Mark these documents to show substantial variations in actual work performed in comparison with the text of the Specifications and modifications.
 2. Give particular attention to selection of options, and information about concealed construction that cannot otherwise be readily determined later by direct observation.
 3. Note related record drawing information and Product Data.
 4. Provide **<Insert number of sets required>** complete sets of Record Specifications to the Contracting Officer.

- D. Miscellaneous Record Submittals: Assemble miscellaneous records including construction photographs required by other specification sections for miscellaneous record keeping and submittals in connection with actual performance of the work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

1.7 OPERATION AND MAINTENANCE MANUALS

- A. Provide operation and maintenance manuals for each piece of equipment and other systems and components specified in the technical sections of the specifications. Organize operation and maintenance data in suitable sets of manageable size.
- B. Manuals shall have tables of contents, and be assembled to conform to tables of contents, with tab sheets covering each subject. Manuals shall be organized around the Construction Specification Institute 16-Division Master Format. Instructions shall be legible and easy to read. Bind properly indexed data in individual, heavy-duty, 3-ring, vinyl-covered loose-leaf binders, with pocket folders for folded sheet information (except drawings). Where oversize drawings are required, they shall be folded in. Include the words "Operation and Maintenance Manual," the name of the building and building number, and the project title on the cover and spine of each binder. Manuals shall include, but not be limited to, the following types of information.
 - 1. Detailed description of each system and each of its components, including layout showing piping, valves, controls and other components, and including diagrams and illustrations where applicable.
 - 2. Wiring and control diagrams with data to explain detailed operation and control of each piece of equipment.
 - 3. Control sequence describing start-up, operation, and shutdown.
 - 4. Procedure for starting
 - 5. Procedure for operating
 - 6. Shut-down instructions
 - 7. Installation instructions
 - 8. Maintenance and overhaul instructions
 - 9. Lubricating schedule, including type, grade, temperature range and frequency.
 - 10. Emergency instructions and safety precautions.
 - 11. Corrected shop drawings.
 - 12. Approved product data
 - 13. Copies of approved certifications and laboratory test reports (where applicable).
 - 14. Copies of warranties
 - 15. Test procedures
 - 16. Performance curves and rating data
 - 17. Parts list, including source of supply, recommended spare parts, and service organization convenient to the building site. Listing shall indicate manufacturer's name, part number, nomenclature, and stock level required for maintenance and repair. List those items that may be standard to the normal maintenance of the system.
 - 18. Name, address, and telephone number of each Subcontractor who installed equipment and systems, and local representative for each type of equipment and each system.
 - 19. Troubleshooting data.
 - 20. Other pertinent data applicable to the operation and maintenance of particular systems or equipment and/or other specified in technical sections of the Specification.
 - a. Manuals for the system as a whole will not be required for outside water distribution systems or storm and sanitary sewer systems.
 - 21. Preventative Maintenance: Include a recommended schedule showing when each system should be retested. Schedule shall define the anticipated length of each test, test

apparatus, number of personnel identified by responsibility, and a testing validation procedure permitting the record operation capability requirements. Each test feature; e.g., gpm, rpm, psi, shall have a sign-off blank for the Contractor and Project Officer. A remarks column of the testing validation procedure shall include references to operating limits of time, pressure, temperature, volume, voltage, current, acceleration, velocity, alignment, calibration, adjustments, cleaning, or special system notes. Procedures for preventative maintenance, inspection, adjustment, lubrication and cleaning necessary to minimize corrective maintenance and repair shall be delineated.

- a. Include load limits, speed of operation, environmental criteria and personnel hazard and safety precautions.
- b. Repair requirements shall inform operators how to check out, troubleshoot, repair, and replace components of the system. Instructions shall include electrical and mechanical schematics and diagrams and diagnostic techniques necessary to enable operation and trouble shooting after acceptance of the system.

22. Special Tools: Include a list of special tools required for maintaining and testing each system.

- C. Provide the Contracting Officer with two draft copies of the manuals 14 calendar days prior to testing any system involved and six final copies incorporating NIH review comments. Data shall be updated and resubmitted for final approval not later than 10 days prior to the established date for the Pre-Final Inspection.

1.8 WARRANTIES

- A. Standard and special warranties required by the individual sections of the Specifications and coincidental warranties shall provide guarantees in terms of time limits or rights of NIH in addition to those contained in the Construction Contract clauses.
 1. Manufacturer's disclaimers and limitations on product warranties do not relieve the contractor of the warranty on the work that incorporates the products.
 2. Manufacturer's disclaimers and limitations on product warranties do not relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.
 3. Standard product warranties shall be preprinted written warranties published by individual manufacturers for particular products, and shall be specifically endorsed to NIH by the manufacturer.
 4. Special project warranties shall be specifically written to incorporate particular requirements of the Contract Documents, and shall be endorsed to NIH by the entities responsible for the work, as stated in the individual section.
 5. Coincidental product warranties shall be provided where available on a product incorporated into the work by virtue of the fact that the manufacturer of the product has published a warranty in connection with purchases and uses of the product without regard for specific applications except as otherwise limited by terms of the warranty.
- B. Reinstatement of Warranty: When work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.
- C. Replacement Cost: Upon determination that work covered by a warranty has failed, replace or rebuild the work to an acceptable condition complying with requirements of the Contract Documents. The contractor is responsible for the cost of replacing or rebuilding defective work

regardless of whether NIH has benefited from the use of the work through a portion of its anticipated useful service life.

- D. Rejection of Warranties: The Contracting Officer reserves the right to reject warranties and to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
- E. Where the Contract Documents require a special warranty, or similar commitment for the work or part of the work, the Contracting Officer reserves the right to refuse to accept the work on behalf of NIH until the contractor presents evidence that entities required to countersign such commitments are willing to do so.
- F. Where a warranty is not specifically required by the Contract Documents but is available on a product incorporated into the work, by virtue of the fact that the manufacturer of the product has published a warranty in connection with purchases and uses of the product without regard for specific applications except as otherwise limited by terms of the warranty, that warranty shall be provided to NIH.
- G. Submit written warranties to the Contracting Officer as required by the contract documents.
 - 1. Draft copies of required warranty documents shall be submitted to the Contracting Officer for review in the specified format prior to warranty execution and prior to the date certified for Substantial Completion, unless an earlier time of submission is specified elsewhere in the contract documents or requested by the Contracting Officer.
 - a. Submit **<three>** copies of draft warranty documents. All but **<one>** [copy][copies] of the draft submission shall be returned to the Contractor for corrections and resubmission.
 - 2. Warranties will comply with the requirements included in the technical specification sections.
 - 3. Unless indicated otherwise warranties are to take effect on the date of Substantial Completion.
 - 4. When the contract documents require the Contractor, or the Contractor and a subcontractor, supplier or manufacturer to execute a special warranty, provide a written document that contains the appropriate terms and identification, executed by the required parties.
 - a. Refer to Division 2 through 16 sections for specific content requirements and particular requirements for submitting special warranties.
 - 5. Following Contracting Officer review, correct draft warranty documents as required and submit **<three>** copies of each final warranty document properly executed by the contractor, subcontractor, supplier, or manufacturer at Final Completion.
 - 6. Organize the warranty documents into an orderly sequence based on the Specification Divisions and Section Numbers.
 - a. Bind warranties and bonds in heavy -duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 115-by-280-mm paper.
 - b. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
 - c. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation.

- d. Provide a typed description of each product or installation being warranted, including the name of the product, and the name, address, and telephone number of the Installer.
- 7. When warranted construction requires operation and maintenance manuals, provide additional copies of each required warranty in each required manual. Refer to Division 1 Section "Operation and Maintenance Documentation" for requirements of Operation and Maintenance manuals.
- H. When a designated portion of the work is completed and occupied or used by NIH, by a separate agreement with the contractor during the construction period, submit properly executed warranties within 14 calendar days after completion of that designated portion of the work.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 INSTRUCTIONS TO NIH PERSONNEL

- A. Operation and Maintenance Instructions: Provide instructions to designated NIH Employees without additional expense to NIH, where required by the technical provisions of Divisions 2 - 16. NIH shall be given 7 calendar days written notice of scheduled instructional services and shall approve such before they are held. Instructional materials belonging to the manufacturer or vendor; e.g., lists, static exhibits, visual aids, shall be made available to the Project Officer. Instructors shall give full instruction in the care, adjustment, and operation of the systems and equipment specified in other sections of these specifications. Arrange for each installer of equipment that requires regular maintenance to meet with the NIH personnel to provide instruction in proper operation and maintenance. Provide instruction by manufacturer's representatives if installers are not experienced in operation and maintenance procedures.
- B. Submit a written outline with the written notice which describes the instruction program to include:
 - 1. Equipment being demonstrated or the focus of instructions
 - 2. Relevant specification section
 - 3. Duration of the instruction or demonstration
 - 4. Number of individuals that can be trained or demonstrated to at one time
 - 5. Level of expertise and background requirements of the NIH employees to be trained
 - 6. Name of proposed instructor.
 - 7. Any special conditions required for the demonstration (Power outage, HVAC outage, work stoppage in the Laboratory, etc.)
 - 8. Any expected impact on NIH operations during the training.
- C. As part of instruction for operating equipment, demonstrate the following procedures:
 - 1. Startup
 - 2. Shutdown
 - 3. Emergency Operations
 - 4. Noise and Vibration adjustments
 - 5. Safety procedures

6. Economy and efficiency adjustments
7. Effective energy utilization

3.2 POSTED OPERATING INSTRUCTIONS

- A. Operating instructions approved by the Project Officer shall be provided for each system and each principal piece of equipment as indicated in Divisions 2-16 of the specifications for the use of operation and maintenance personnel. Include wiring and control diagrams showing the complete layout of the entire system including equipment, piping, and valves, and control sequence, framed under glass or approved laminated plastic and posted where directed by the Project Officer. Printed or engraved operating instructions for each principal piece of equipment including start-up, proper adjustment, operating, lubrication, shutdown, safety precautions, procedure in the event of equipment failure, and any other necessary items of instruction as recommended by the manufacturer of the unit shall be attached to or posted adjacent to the piece of equipment. Operating instructions exposed to the weather shall be made of weather-resisting materials or shall be suitably enclosed to be weather protected. Operating instructions shall not fade when exposed to sunlight and shall be secured to prevent easy removal or peeling.

3.3 FINAL CLEANING

- A. General cleaning during construction is required by the General Conditions and included in Section H of the Contract.
- B. Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a normal, commercial cleaning and maintenance program. Use only those cleaning materials which will not create hazards to health or property and which will not damage surfaces. Use only those cleaning materials and methods recommended by the manufacturer of the surface material to be cleaned. Use cleaning materials only on surfaces recommended by cleaning material manufacturer. Comply with manufacturer's instructions.
- C. Complete the following cleaning operations before requesting inspection for Final Completion.
 1. Remove labels and stickers that are not permanent from fixtures and equipment. Do not remove permanent nameplates, equipment model numbers and ratings.
 2. Polish glossy surfaces to a clear shine.
 3. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 4. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 5. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 6. Remove tools, construction equipment, machinery, and surplus material from Project site.
 7. Remove snow and ice to provide safe access to building.
 8. Remove grease, mastic, adhesives, dust, dirt, stains, fingerprints, labels, and other foreign materials and substances from sight-exposed interior and exterior surfaces. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 9. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 10. Sweep concrete floors broom clean in occupied and unoccupied spaces.
 11. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.

12. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
 13. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - a. Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
 14. Internally clean the entire system of piping and equipment. Open dirt pockets and strainers, completely blowing down as required and clean strainer screens of accumulated debris.
 15. Wipe surfaces of mechanical and electrical equipment, [**elevator equipment,**] and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 16. Replace parts subject to unusual operating conditions.
 17. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 18. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 19. Clean ducts, blowers, and coils if units were operated without filters during construction.
 20. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
 21. Leave Project clean and ready for occupancy.
- D. Pest Control: Engage an experienced, licensed exterminator to make a final inspection and rid the project of rodents, insects, and other pests.
- E. Dust Control: Handle materials in a controlled manner with as little dust and over spray as possible.
- F. Removal of Protection: Remove temporary protection and facilities installed for the protection of the Work during construction.
- G. Compliance: Comply with the regulations of authorities having jurisdiction and with safety standards for cleaning and disposal operations. Do not burn or bury rubbish, waste, and/or excess materials on NIH property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from the site and dispose of it lawfully.
- H. Remaining Materials: Where extra materials of value are remaining after completion of associated work, they become NIH property. Arrange for disposition of these materials as directed by the Project Officer.

END OF SECTION 01770